# **Government of Maharashtra Water Resources Department**

### Executive Engineer, Takari Mechanical & Electrical Division , Sangli

Budgetary offer for the following work (Non DSR items) are invited by the Executive Engineer, Takari Mechanical and Electrical Division, Sangli -416415 Phone No. 0233-2302932 on behalf of Governor of Maharashtra for estimation purpose from the Reputed Agencies /Contractor/OEM(Original Equipment Manufacturer).

The brief of work is given below. Interested Agencies are requested to go through the details and send the budgetary offers for proposed work. The rates should cover all taxes and duties applicable. The interested parties are requested to quote the offer up to 04/12/2019. Further it is requested to forward relevant technical literature, brochures of equipments and your comments if any in this matter. For detailed specifications of equipments and scope of work involved if required, please contact to this division office on (0233-2302932).

Sr. No.	Name of Work	Qty.
1	Vertical Turbine Pump  Design, Manufacture, Supply, erection, testing & commissioning of vertical turbine pumps with strainer, bell mouth, impeller assembly, Discharge Tee, Flexible couplings, base frame Foundation etc complete job as per following specifications.  1) Duty point Discharge =0.865 Cub.m/sec  2) Duty point head =27.20 m  3) Head range = 20 to 34 m  4) No. of impeller stages = 1 stage  5) Pump HP = 367 HP,  6) Max. syn. RPM = 750 rpm.  7) Column Pipe dia. = 750 mm  8) Delivery Pipe dia. = 700 mm  9)Column pipe thickness = 6 mm  10) No. of pumps working in parallel = 2  11) Self water lubricated.	1No
2	Induction Motor (H. T. Motor)  Design, manufacture, Supply, erection, testing & commissioning of Squirrel Cage Induction Motor 325 KW, 6.6KV, 3 phase, 50 Hz, solid shaft, CACW Cooler type 'F' class insulation with voltage variation of ± 10 % and frequency variation ± 3 % suitable for direct coupling with provided Vertical Turbine pump as per latest revision of IS 325, IS 4722 & other relevant IS specifications.	1No

#### Note:-

- 1) This information is required for the purpose of framing of working estimates and hence the urgency. This Budgetary offer is also available on website www.mahayantriki.gov.in
- 2) Material of construction should be as per standard DTP of Mechanical Organization WRD Maharashtra.
- 3) Scope involves work of Design, Manufacture, Supply, erection, testing & commissioning with PG Testing at site.

(S.N.Rokade)

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Sr. No.	Name of Work	Qty.
1	Vertical Turbine Pump	
	Providing, Installing at site of works giving test to full capacity, vertical turbine	1No
	pumps non pull out type, complete with strainer, suction bell ,column assembly,	1110
	discharge case/discharge tee motor stool, flexible coupling, sole plates, Base frame	
	foundation, non reversible rotation ratchet arrangement etc suitable for following	
	duties, specifications.	
	a. Duty point discharge 1.6439m3/sec.	
	b. Duty point Head - 39 mtr.	
	c. Maximum rpm.syn - 750	
	d. Efficiency - 1) Bowl efficiency 89.5% to 91.00 or above.	
	2) Pump eff.89% to 91% or above.	
	3) Overall efficiency 85.44% to 86.88% or above.	
	e. Head range - 29m to 43m	
	f. Lubrication system - self water lubricated.	
	g. Discharge type - sub surface.	
	h. No. of maximum stage - single stage.	
	I. Column pipe as per I.S. 3589 of 1991 outside din -	
	1077mm.	
	j. Column pipe thickness ( Minimum)	
	k. Line shaft din(minimum) 100mm.	
	I. Maximum No. of pumps working in panels - 7nos.	
	m.Sole plate thickness (Minimum) - 70mm.	
	n.Pump HP- 960	
2	Induction Motor (H. T. Motor)	
	Providing, installing at site of works & testing to full capacity solid shaft Squirrel	
	Cage Induction Motor 325 KW, 6.6KV, 3 phase, 50 Hz, solid shaft, CACW	
	Cooler type 'F' class insulation with voltage variation of ± 10 % and frequency	
	variation $\pm 3$ % suitable for direct coupling with provided Vertical Turbine pump as per latest revision of IS 325, IS 4722 & other relevant IS specifications to meet	1No
	the power requirement of pump with 10% additional capacity over entire operating	
	range, suitable for following duties, specifications	
	A. Operating voltage – 6.6 KV	
	B. (KW) rating of motor – 788 KW	
	C. Minimum motor eff. – 96%	

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Sr.no	Description of work	Qty	Unit
	Repairs to HOPD valves of size 1000 mm for Mhaisal Stage 1 & 2 and 1200	1	Nos
	mm for Mhaisal stage 5 as per actual site conditions.		
A	Hydraulic system-		
a	Dismantling and cleaning hydraulic power pack unit along with manual operating mechanism	1	Set
b	Replacing damaged O rings, oil seals & filter of entire mechanism	1	Set
c	Replacing all damaged components of relief valves, flow control valves, solenoid valves & throttle valves, manual operation cylinder.	1	Nos
d	Drain old used oil from oil tank of power pack unit, cleaning the oil tank, fitting new oil filter, filling new oil of servo 68 type in tank with labour and all taxes. (Servo-68 oil will be supplied by dept.)	100	Nos
е	Assembling hydraulic power pack unit		
В	Mechanical work		
	Modification, Design, supply, Erection, testing and commissioning of existing HOPD operating dead weight, bracket, hydraulic cylinder mechanism for smooth functioning of HOPD valve with material and labour charges with all necessary test and trials.	1	job

#### **SCOPE OF WORK:**

#### Part A:

- 1. Dismantling and cleaning hydraulic power pack unit along with manual operating mechanism.
- 2. Replacing damaged O rings, oil seals & filter of entire mechanism.
- **3.** Replacing all damaged components of relief valves, flow control valves, solenoid valves & throttle valves, manual operation cylinder.

- **4.** Drain old used oil from oil tank of power pack unit, cleaning the oil tank, fitting new oil filter, filling new oil of servo 68 type in tank with labour and all taxes. (Servo-68 oil will be supplied by dept.)
- **5.** Assembling hydraulic power pack unit.
- 6. Assembling of power pack unit with hydraulic oil tank, electric control panel etc.
- 7. Testing for HOPD valve, operation for minimum 3 position viz, open, close ,partial opening and emergency shutdown.

#### Part B:

- 1. Dismantling of complete HOPD valve from delivery pipe including dead weight.
- **2.** Transportation of valve to factory.
- **3.** Dismantling of complete valve and valve operating mechanism like bracket, hydraulic cylinder etc of valve if required.
- **4.** Grinding and finishing of all components.
- 5. Study present HOPD valve operating mechanism
- 6. Design modified valve operating mechanism
- 7. Submit working drawings of modified mechanism
- 8. Manufacture modified valve operating mechanism with HOPD valve
- 9. Transporting HOPD valve and operating mechanism at site
- 10. Fitting of HOPD valve to the delivery pipe
- 11. Testing and trial of whole HOPD mechanism
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Sr.No	Description	QTY	UNIT
1)	Replacement of gear box-actuator assembly		Job
	a) Repairing of gear box assembly	1	
	b) Replacement of actuator assembly	1	
2)	Refurbishment of Butterfly valves with replacement of all rubber components, fasteners, removing of pins, keys. Assembly, Hydrotesting, painting, removal & fitting of valve on site.	1	Job

#### Scope of work-

- 1. Dismantling of BFV actuator assembly with complete valve from pipe line.
- **2.** Transportation of valve to factory.
- **3.** Dismantling of hydraulic assembly.
- **4.** Dismantling of complete valve.
- **5.** Grinding and finishing of all components.
- **6.** Replacement of all rubber components.
- 7. Replacement of damaged keys, pins, bearing bush, gun metal components.
- **8.** Replacement of clamping fasteners.
- 9. Replacement of drive end (DE) fasteners, Non Drive(NDE) fasteners, DE-NDE covers.
- **10.** Assembly of valve.
- **11.** Hydro testing of valve.
- **12.** Movement test of 1000mm butterfly valve with new hydraulic assembly.
- **13.** Transportation of butterfly valve with new hydraulic assembly to Site.
- 14. Erection and commissioning of butterfly valve with new hydraulic assembly
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